APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/619,046	07/14/2003	Seung-Jae Han	4-4	6070

			EXAMINER
30594	7590	11/02/2005	NGUYEN, KHAI MINH

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ART UNIT	PAPER NUMBER
2687	

DATE MAILED: 11/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *15 August 2005*.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-36* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-3,5,7,8,11-14,16,18,19,22,23,25,27,29,31,32 and 35* is/are rejected.

7) ☒ Claim(s) *4,6,9-10,15,17,20-21,24,26,28,30,33-34,and 36* is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1.   Applicant's argument with respect to claim 1-36 have been considered but are

moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-3, 5, 7-8, 11-14, 16, 18-19, 22-23, 25, 27, 29, 31-32, and 35 are

rejected under 35 U.S.C. 103(a) as being unpatentable over Brody et al. (U.S.Pat-

4670899) in view of Leung et al. (EP-0701382).

Regarding claim 1, Brody teaches a method for calculating a transmission

characteristic threshold for use in assigning a user to one layer in a plurality of layers in

a wireless communications network (fig.1-2, abstract), said method comprising:

calculating a first balancing metric based on an operating characteristic of said

first layer (fig.5a-5b, col.7, lines 4-24, col.11, lines 14-33, col.15, lines 26-45),

calculating a second balancing metric based on an operating characteristic of

said second layer (fig.5a-5b, col.7, lines 4-41, col.11, lines 14-33, col.15, lines 26-45).

Brody fails to specifically discloses adjusting said transmission characteristic threshold in response to the value of said first balancing metric relative to said second balancing metric. However, Leung teaches operations of cellular communications system based on mobility and teletraffic statistic collected by mobile units, and Leung teaches adjusting said transmission characteristic threshold in response to the value of said first balancing metric relative to said second balancing metric (fig.4, col.12, lines 9-45). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use adjusting said transmission characteristic threshold in response to the value of said first balancing metric relative to said second balancing metric as taught by Leung with Brody teaching in order to assign new handoff calls to microcell or macrocell, to prioritize call handling within the cellular communications system and to assign customized customer service areas for the mobile units.

Regarding claim 2, Leung further teaches the method of claim 1 further comprising the step of assigning said user to a layer in response to the value of a first user transmission characteristic of a transmission from said user relative to said adjusted transmission characteristic threshold (fig.4, col.12, lines 9-45).

Regarding claim 3, Leung further teaches the method of claim 1 wherein said transmission characteristic threshold is a threshold corresponding to the size of the data to be transmitted to or from said user (fig.4, col.12, lines 9-45).

Regarding claim 5, Brody further teaches the method of claim 1 wherein said transmission characteristic threshold is a threshold corresponding to the velocity of said user (col.6, lines 43-56, col.7, lines 4-24).

Regarding claim 7, Brody further teaches the method of claim 1 wherein said first operating characteristic corresponds to an average number of users (fig.13, col.24, lines 6-28, col.25, line 50 to col.26, line 7).

Regarding claim 8, Brody further teaches the method of claim 1 wherein said first operating characteristic corresponds to the expected system load as seen by said user (col.7, lines 4-41).

Regarding claim 11, Leung further teaches the method of claim 8 wherein said first balancing metric is determined by calculating the number of users in the first layer of said network and said second balancing metric is determined by calculating the number of users in said second layer of said network (fig.4, col.12, lines 9-45).

Regarding claim 12, Brody teaches apparatus for calculating a transmission characteristic threshold for use in assigning a user to one layer in a plurality of layers in a wireless communications network (fig.1-2, abstract), said apparatus comprising:

means for calculating a first balancing metric based on an operating

characteristic of said first layer (fig.5a-5b, col.7, lines 4-24, col.11, lines 14-33, col.15,

lines 26-45);

means for calculating a second balancing metric based on an operating

characteristic of said second layer (fig.5a-5b, col.7, lines 4-24, col.11, lines 14-33,

col.15, lines 26-45); and

Brody fails to specifically discloses adjusting said transmission characteristic

threshold in response to the value of said first balancing metric relative to said second

balancing metric. However, Leung teaches operations of cellular communications

system based on mobility and teletraffic statistic collected by mobile units, and Leung

teaches adjusting said transmission characteristic threshold in response to the value of

said first balancing metric relative to said second balancing metric (fig.4, col.12, lines 9-

45). Therefore, it would have been obvious to one of ordinary skill in the art at the time

the invention was made to use adjusting said transmission characteristic threshold in

response to the value of said first balancing metric relative to said second balancing

metric as taught by Leung with Brody teaching in order to assign new handoff calls to

microcell or macrocell, to prioritize call handling within the cellular communications

system and to assign customized customer service areas for the mobile units.

Regarding claim 13, Leung further teaches the apparatus of claim 12 further

comprising means for assigning said user to a layer in response to the value of a first

user transmission characteristic of a transmission from said user relative to said

adjusted transmission characteristic threshold (fig.4, col.12, lines 9-45).

Regarding claim 14, Leung further teaches the apparatus of claim 12 wherein

said transmission characteristic threshold is a threshold corresponding to the size of the

data to be transmitted to or from said user (fig.4, col.12, lines 9-45).

Regarding claim 16, Brody further teaches the apparatus of claim 12 wherein

said transmission characteristic threshold is a threshold corresponding to the velocity of

said user (col.6, lines 43-56, col.7, lines 4-24).

regarding claim 18, Brody further teaches the apparatus of claim 12 wherein said

first operating characteristic corresponds to an average number of users (fig.13, col.24,

lines 6-28, col.25, line 50 to col.26, line 7).

Regarding claim 19, Brody further teaches the apparatus of claim 12 wherein

said first operating characteristic corresponds to the expected system load as seen by

said user (col.7, lines 4-41).

Regarding claim 22, Leung teaches the apparatus of claim 18 wherein said first

balancing metric is determined by calculating the number of users in the first layer of

said network and said second balancing metric is determined by calculating the number

of users in said second layer of said network (fig.4, col.12, lines 9-45).

Regarding claim 23, Brody teaches an assignment manager for assigning a user

to one layer in a plurality of layers in a wireless communications network (fig.1-2,

abstract), said assignment manager (fig.1-2, element 20) comprising:

a first circuit for calculating a first balancing metric based on an operating

characteristic of said first layer (fig.5a-5b, col.7, lines 4-24, col.11, lines 14-33, col.15,

lines 26-45);

a second circuit for calculating a second balancing metric based on an operating

characteristic of said second layer (fig.5a-5b, col.7, lines 4-24, col.11, lines 14-33,

col.15, lines 26-45); and

Brody fails to specifically discloses a third circuit for adjusting a transmission

characteristic threshold in response to the value of said first balancing metric relative to

said second balancing metric. However, Leung teaches operations of cellular

communications system based on mobility and teletraffic statistic collected by mobile

units, and Leung teaches a third circuit for adjusting a transmission characteristic

threshold in response to the value of said first balancing metric relative to said second

balancing metric (fig.4, col.12, lines 9-45). Therefore, it would have been obvious to one

of ordinary skill in the art at the time the invention was made to use a third circuit for

adjusting a transmission characteristic threshold in response to the value of said first

balancing metric relative to said second balancing metric as taught by Leung with Brody

teaching in order to assign new handoff calls to microcell or macrocell, to prioritize call

handling within the cellular communications system and to assign customized customer

service areas for the mobile units.

Regarding claim 25, Leung further teaches the assignment manager of claim 23

further comprising a fourth circuit for assigning said user to a layer in response to the

value of a first user transmission characteristic of a transmission from said user relative

to said adjusted transmission characteristic threshold (fig.4, col.12, lines 9-45).

Regarding claim 27, Leung further teaches the assignment manager of claim 23

wherein said transmission characteristic threshold is a threshold corresponding to the

size of the data to be transmitted to or from said user (fig.4, col.12, lines 9-45).

Regarding claim 29, Brody further teaches the assignment manager of claim 23

wherein said transmission characteristic threshold is a threshold corresponding to the

velocity of said user (col.6, lines 43-56, col.7, lines 4-24).

Regarding claim 31, Brody further teaches the assignment manager of claim 23

wherein said first operating characteristic corresponds to an average number of users

(fig.13, col.24, lines 6-28, col.25, line 50 to col.26, line 7).

Regarding claim 32, Brody further teaches the assignment manager of claim 23

wherein said first operating characteristic corresponds to the expected system load as seen by said user (col.7, lines 4-41).

Regarding claim 35, Leung further teaches the assignment manager of claim 32 wherein said first balancing metric is determined by calculating the number of users in the first layer of said network and said second balancing metric is determined by calculating the number of users in said second layer of said network (fig.4, col.12, lines 9-45).

Allowable Subject Matter

3.   Claims **4, 6, 9-10, 15, 17, 20-21, 24, 26, 28, 30, 33-34, and 36** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Citation of Pertinent Prior Art

4.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Salonaho (U.S.Pat-6208863) discloses Hanover in a mobile communication system having a multilayer radio coverage.

Cherpantier et al. (U.S.Pat-5805993) discloses Cell level change control device for cellular mobile radio networks with more than one level of cell.

Conclusion

5.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khai M. Nguyen whose telephone number is 571.272.7923. The examiner can normally be reached on 8:00-5:00.
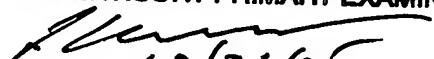
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester Kincaid can be reached on 571.272.7922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Khai Nguyen
Au: 2687   10/20/2005

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SUPERVISORY PRIMARY EXAMINER